

July 27, 2022

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NYSERDA IAQ Program – July Preliminary Findings Report

## Common Elements

Edison's Work Plans for the MSKCC Facilities were approved June 30, 2020. (BAIC WP-1 and Josie Robertson WP-2) Edison contacted the sites to schedule kickoff meetings and provided a request for information.

- Site visits/kickoff meetings were subsequently scheduled for July 15, 2020.
- Requests for information for both sites were made asking for:
  - Energy Consumption for calendar years 2018 and 2019 – Received
  - HVAC mechanical drawings and equipment schedule – Received
  - Architectural Drawings or Fire Egress Plans – Received

## UVGI / Safe Work Opening Research

Edison commenced research into the published guidelines for active and post Covid (epidemic) conditions including:

- ASHRAE Epidemic Task Force:
  - Building Readiness – 5-21-2020
  - Commercial - 4-20-2020
  - Filtration & Disinfection – 5-27-2020
  - Healthcare – 6-17-2020
  - Schools & Universities – 5-5-2020
  - Practical Guidance for Epidemic Operation of Energy Recovery Ventilation Systems – 6-9-2020
- ASHRAE Standard 62.1-2013 Ventilation for Acceptable Indoor Air Quality

Edison compiled key/applicable requirements to be incorporated into the subsequent technical analysis.

Edison commenced research into the targeted technologies:

- Upper Room UVGI
- UVGI
- High Efficiency Filtration installed at the air handlers to increase filtration effectiveness to at least MERV13 as recommended by ASHRAE.

Product Vendors were contacted, product research reviewed. Vendors were contacted regarding product application, sizing methodology and pricing.

## BAIC WP-1

Initial site visit and customer kickoff occurred on July 15, 2020. Visit consisted of:

- Reviewing the scope and goals of the analysis with site personnel
- A field walk of the facility and HVAC systems
- Full BMS review of the AHU's as well as a review of portions of the terminal VAV operation

Preliminary findings include:

- Site already utilizes extensive ventilation setbacks and zone specific setback strategies. (time of day and static pressure reset).
- Implementing additional setback and DCV strategies will be challenging.
- Several operation deficiencies were noted, correction of which will result in energy savings:
  - Conflicting setpoints
  - Over ventilation of office spaces
  - Simultaneous heating and cooling issues were identified

Next steps include:

- A detailed analysis of the ventilation requirements of the spaces per code and ASHRAE epidemic guidelines and compare vs baseline 2018/2019 operation
- Identifying optimal application of UVGI and improved filtration
- Calculation of energy consumption and operating costs of baseline and proposed operations
- The goal for the coming month will be to be substantially complete with:
  - Finalize the baseline condition models of the HVAC Systems via spreadsheet BIN analysis. (Energy use and cost)
  - Project possible post Covid condition models of the HVAC Systems
  - Identify and quantify available energy conservation measures.

Josie Robertson WP-2

Initial site visit and customer kickoff occurred on July 15, 2020. Visit consisted of:

- Reviewing the scope and goals of the analysis with site personnel
- A field walk of the facility and HVAC systems
- Partial BMS review of the AHU's as well as a review of portions of the terminal VAV operation

Preliminary findings include:

- Site already utilizes extensive ventilation setbacks on 6 of the nine AHU's. Additional field work required to confirm the final three AHU and look at terminal equipment in more detail.
- Implementing additional nighttime setback and DCV strategies will be challenging.
- Implementation of static pressure reset schedules may be possible
- No operational deficiencies with the BMS were noted to date, additional field work required

Next steps include:

- A return site visit for additional BMS review and investigation
- A detailed analysis of the ventilation requires of the spaces per code and ASHRAE epidemic guidelines and compare vs baseline 2018/2019 operation
- Identifying optimal application of UVGI and improved filtration
- Calculation of energy consumption and operating costs of baseline and proposed operations
- The goal for the coming month will be to be substantially complete with:
  - Finalize the baseline condition models of the HVAC Systems via spreadsheet BIN analysis. (Energy use and cost)
  - Project possible post Covid condition models of the HVAC Systems
  - Identify and quantify available energy conservation measures.